

# **EXHIBIT 10**

## AirOS6 Firmware Changelog

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### Supported products

- \* Bullet M2/M5/Titanium
- \* Rocket M2/M2 Titanium/M3/M365/M900/M5/M5 GPS/M5 Titanium/M6
- \* NanoStation M2/M3/M365/M5/M6
- \* NanoStation Loco M2/M900/M5
- \* NanoBridge M2/M3/M365/M900/M5
- \* AirGrid M2/M5/HP/HP New
- \* PowerBridge M3/M365/M5/M10
- \* PicoStation M2
- \* AirRouter/HP
- \* PowerAP N
- \* LiteBeam M5
- \* NanoBeam M2/M5
- \* AirGrid M5 HP
- \* NanoStation M5
- \* NanoStation M5 Loco
- \* Rocket M5/Titanium

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### 6.1.8 (XM/XW/TI) Changelog / Sep 26, 2018

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#### New:

- New: IPv6 discovery support
- New: Enable IPv6 after Reset to Factory Defaults
- New: UNMS agent upgrade to v0.4.0

#### Regulatory:

- Add Paraguay country code
- Add Swaziland country code
- Add missing frequencies 5170 MHz and 5175 MHz for HT20 for New Zealand
- Enable UNII-1 and UNII-2A bands for Australia
- Enable UNII-1 indoor bands for Canada
- Enable UNII-2C indoor bands for Kazakhstan
- Extend UNII-3 band up to 5875 MHz for Russia
- Enable indoor channels for Brazil: 5150-5250 MHz, 5250-5350 MHz
- Update channel plan for Bahrain
- Update Lithuania regulatory

#### Enhancements:

- Improved CCQ calculation and reporting
- airOS stability improvements

#### Fixes:

- Fix: Sometimes station stops passing traffic
- Fix: M900 issues (possible fix)

#### WEB UI:

- WEB UI: Fix country code selection issue

### 6.1.7 (XM/XW/TI) Changelog / May 25, 2018

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#### New:

- New: Support for the new TDD Framing Flexible (NEW) mode (airMAX AC AP on v8.5.4 required)
- New: TDD Framing/GPS Sync support for 10MHz in AP PtMP airMAX Mixed mode (airMAX AC AP on v8.5.4 required)
- New: IPV6 addresses support in the Ping tool
- New: Daylight Saving Time support
- New: ULink, UNMS, UCRM icons on Login page

- New: UNMS agent upgrade to v0.3.12
- New: Updated EULA and Privacy Policy agreements

Regulatory updates:

- Updated New Zealand allowed frequencies for 5GHz

Improvements:

- airOS stability improvements

Fixes:

- Fix: Allow configuring local or static IPv6 address on LAN even IPv6 is not set on WAN
- Fix: Need restart dnsmasq service after IPV6 gets DNS from DHCP
- Fix: Make DHCPv6 Unique Identifier (DUID-UUID) permanent
- Fix: DNS configuration when DHCP on WAN is selected
- Fix: No internet access for LAN clients with specific DHCP server and DNS proxy configurations (router mode)
- Fix: Wrong airMAX Quality reporting of 1x1 chain devices
- Fix: Station cannot connect to 40MHz AP for New Zealand country
- Fix: Reduce IPv6 server and client syslog messages

WEB UI:

- WEB UI: Remote stats are missing in case "Extra reporting" is enabled but related cfg key is missing
- WEB UI: airMAX Capacity reporting issue in VHT10 mode
- WEB UI: Various small UI improvements

6.1.6 (XM/XW/TI) Changelog / March 9, 2018

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New:

- New: Support for the new Wireless Network Protection feature. This feature is enabled on AP and protects the airMAX network against de-authentication attacks. airMAX AC and airMAX M client devices are supported but they must be used with an airMAX AC AP. We recommend upgrading client devices first before enabling this feature on AP.
- New: DNS settings on WAN for IPv6
- New: UNMS status icon on the top of airOS
- New: UNMS agent upgrade to v0.3.10
- airMAX-ac FF: Support for the new ReSE (Receive Signal Enhancement) feature
- airMAX-ac FF: Connection issue to AC AP when RTS threshold is ON and set to a low value
- airMAX-ac FF: Fix for PPPoE session disconnects in FF mode

Regulatory updates:

- Extended UNII-3 band up to 5725-5850 MHz for United Kingdom

Improvements:

- airMAX-ac: QOS improvements for un-encrypted PPPoE configurations
- airOS stability improvements
- airOS security improvements

Fixes:

- Fix: Speed Test reporting issues
- Fix: Maximum TX Data Rate selection (restricted to the range of MCS 2 - MCS 7 for 1x1 & 2x2 devices and MCS 10 - MCS 15 for 2x2 devices)
- Fix: Center frequencies, channel width and TX power values for AC2 agent

6.1.4 (XM/XW/TI) Changelog / January 19, 2018

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New:

- New: TDD Framing/GPS Sync support for AirMAX 2AC and M2 devices (2AC AP required)
- New: Upgrade MiniUPnP to v2.0 & restrict UPnP to >=1024 ports
- New: OpenSSL update to v1.0.2m

Regulatory updates:

- UNII-2 channels support for IsoStation M
- airMAX-ac FF: VoIP improvements
- airMAX-ac FF: Sometimes station stops passing data
- airMAX-ac FF: Auto distance not working when stations are connected to AC AP
- airOS stability improvements

Fixes:

- Fix: Unexpected reboot on XW after radar detection

WEB UI:

- WEB UI: Fixed invalid date next to UNMS status on Safari

6.1.3 (XM/XW/TI) Changelog / November 17, 2017

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New:

- New: TDD Framing/GPS Sync support for XM/TI devices
- New: UNMS agent upgrade to v0.1.0

Improvements:

- airMAX-ac FF: Performance and stability improvements
- AirOS stability improvements
- AirOS security improvements including CVE-2017-13704, CVE-2017-14106, CVE-2017-14491

Fixes:

- airMAX-ac FF: NBM5 lopsided signal strength fix
- Fix: Channel selection logic on XW after radar detection (sometimes data rate stuck at 54Mbps or channel width changes from 40MHz to 20MHz)
- Fix: Station TX power is set to 0dBm after disabling Automatic Power Control on AC AP (airMAX AC Mixed mode)
- Fix: Sometimes station stuck in association state
- Fix: SNMP get-next-request issue
- Fix: AP TX Power is set to 0dBm after disabling Automatic Power Control (PTP mode)
- Fix: Missing frequency ranges in airView for FCC SKUs

WEB UI:

- WEB UI: Indication next to TX Power that ATPC is enabled on AC AP (airMAX AC Mixed mode)

6.1.2 (XM/XW/TI) Changelog / October 17, 2017

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- Fix: Security patch for the WPA2 vulnerability called KRACK

6.1.1 (XM, TI) Changelog / October 13, 2017

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Important:

- TDD Framing/GPS Sync support is not yet available for XM/TI devices

Improvements:

- airOS stability improvements

Fixes:

- Fix: Sometimes home routers fails to renew DHCP lease or DNS proxy stops working (use same dnsmasq version as in airOS8)
- Fix: Stations fail to connect to AP after 25 days connection drop (AP restart required)
- Fix: IPv6 DHCP multiple LAN issue

#### 6.1.1 (XW) Changelog / October 6, 2017

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- Fix: High memory usage when UNMS is enabled

#### 6.1.0 (XW) Changelog / September 29, 2017

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##### Important:

- Maximum supported CPE/Station count limited to 60 while in GPS Sync mode

##### New:

- New: TDD Framing/GPS Sync support for 20/40MHz in AP PtMP airMAX Mixed mode (XW, airMAX AC AP on v8.4.0 required)

##### Improvements:

- airOS stability improvements

##### Fixes:

- Fix: Sometimes home routers fails to renew DHCP lease or DNS proxy stops working (use same dnsmasq version as in airOS8)
- Fix: Stations fail to connect to AP after 25 days connection drop (AP restart required)
- Fix: IPv6 DHCP multiple LAN issue

#### 6.0.7 (XM/XW/TI) Changelog / September 8, 2017

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##### Important:

airOS v6.0.7 will allow only signed firmware to be loaded. Signed versions of the following airOS versions are available: v5.6.15, v6.0.3, v6.0.4, v6.0.6

All future airOS versions will be signed in this way and not allow unsigned firmware to be loaded except via TFTP.

##### New:

- New: Add support for RFC 6598 (CGN) private IP responses via Discovery
- New: UNMS (Ubiquiti Networks Management System) support
- New: PPPoE LCP configuration via system.cfg
- New: Add Google Play and Appstore images on Login page

##### Fixes:

- Fix: Stability fixes (random XM series device reboots)
- Fix: TX reporting issues in Speed Test tool
- Fix: Duplicate RADIUS Accounting session ID
- Fix: Ignore server certificate validation on client side if CA not present
- Fix: Whitelist fixup\_cfg\_diff.txt file in persistent directory
- Fix: ATPC issue on SISO devices
- Fix: Removing WDS peer doesn't make an effect till AP reboot
- Fix: airView is broken
- Fix: AP-Repeater mode issues
- Fix: airOS security improvements
- WEB UI: Channel/Frequency reporting issue during scan on the Main Page
- WEB UI: DHCP Server Relay address does not show up after saving changes
- WEB UI: Connection issue to airGateway

#### 6.0.6 (XM/XW/TI) Changelog / July 5, 2017

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##### New:

- Signed firmware support (Users are not able to downgrade below v6.0.6 unless using TFTP)
- Upgrade libpcap to 1.8.1

- Additional statistics for AC2 agent

Improvements:

- NanoStation Loco model name changed to NanoStation loco
- airOS security and stability improvements

Regulatory updates:

- Updated 2GHz frequency list: removed 2464MHz for FCC and 2474MHz for EU
- Added 40 MHz channel width for Saudi Arabia

Fixes:

- Fix: AP/Station can't reconnect after changing SSID and Security
- Fix: Make CoS values priority on by default on bridge with VLAN ports
- Fix: Firewall IPv4 and IPv6 both enabled on bridge link don't work
- Fix: Show DHCP client hostname in DHCP Leases in case hostname contains special symbols
- Fix: Revert Device Name strictness for DHCP Client (escape only hashtag '#' symbol which breaks DHCP Client operation)
- Fix: AMC and AMQ are reporting far too high for 1x1 chain XM clients in 2AC Mixed mode
- Fix: Issues with channel width selection on Wireless tab after reset to default and upgrade for M365 models
- Fix: Invalid channel width selection for Japan when changing wireless mode from Station to AP
- Fix: RADIUS Accounting fixes: duplicated Acct-Session-Id, incorrect Acct-Input-Octets and Acct-Output-Octets values
- Fix: Missing statistics for AC2 agent if PPPoE interface is configured on Wireless interface
- Fix: syslogd crash when remote TCP log is enabled
- WEB UI: Cannot configure some IPv6 settings on VLANs

6.0.4 (XM/XW/TI) Changelog / May 5, 2017

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- airOS security improvements

Fixes:

- Fix: (XM) Stations can't connect back to AP after connection was dropped. AP reboot is required
- Fix: Error 403 if session cookie doesn't match original IP
- Fix: Limit discovery response to queries from private subnets or multicast/broadcast

6.0.3 (XM/XW/TI) Changelog / March 29, 2017

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Fixes:

- Fix: Can't change Output Power, Frequency and Frequency List without device reboot

6.0.2 (XM/XW/TI) Changelog / March 28, 2017

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New:

- New: OpenSSL update to v1.0.2k
- New: libevent update to v2.1.8
- New: libssh2 update to v1.8.0

Fixes:

- Fix: Security fixes and improvements
- Fix: Data rate module is not changed until device reboot
- Fix: In rare cases configuration is not saved
- Fix: Update x509 v3 to support new extensions used for WPA2 enterprise

6.0.1 (XM/XW/TI) Changelog / March 17, 2017

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New:

- New: Update tcpdump to v4.9.0

Regulatory updates:

- Revised UNII Rules activation for IC/Canada ( <https://www.ubnt.com/iccoderequest/> )
- Updated New Zealand allowed frequencies for 5GHz
- Removed DFS enable/disable option for Australia

airOS security improvements:

- Command injection in Ping test tool
- OpenSSL update to v1.0.2j
- Remove unused WMM related code
- Other security fixes and improvements

Fixes:

- Fix: airOS stability improvements
- Fix: XM 2.4GHz clients are disconnecting in airMAX AC Mixed mode
- Fix: Station fails re-authentication with AP when the same SSID is used for other APs
- Fix: Applying configuration changes fails after changing SSID and Security from WPA2 to OPEN

6.0 (XM/XW/TI) Changelog / December 19, 2016

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Important Note:

- Version 6.0 is recommended for PTMP Mixed mode usage (M clients connected to AC AP)

New:

- New: airMAX AC client mode support (AP must be upgraded to airOS8 and PTMP Mixed mode selected)
- New: Don't do full restart on most configuration changes
- New: Added signal per chain reporting for AirControl v2
- New: Add kernel crashlog into Support info for better troubleshooting
- New: Added Crash log reporting to Ubiquiti Networks for better troubleshooting
- New: Added "default-mru" key in ppp/options file to disable MRU negotiation
- New: Added MRU negotiation Enable/Disable option
- New: Store configuration backup if upgrade fixer is changing it
- New: Enable Block management access on WAN when switching to Router mode
- New: Dynamic DNS configuration via system.cfg
- New: Added option allowing LLDP packets to pass wireless bridge
- New: DHCP Option configuration via system.cfg
- New: Update dropbear to v2016.74
- New: OpenSSL update to v1.0.2h
- New: lighttpd update to v1.4.39
- New: Linux kernel update to v2.6.32.71

Regulatory Updates:

- ETSI EN 301 893 v1.8.1 adaptivity improvements
- Update 5GHz band for China: add 5180-5240MHz and 5260-5320MHz channels
- Revised UNII Rules activation for NanoStation M5, NanoStation Loco M5 and LiteBeam M5 23

Improvements:

- Reduce false positives and misclassifications of invalid DFS radar events
- airMAX security improvements
- MAC authentication process improvement while RADIUS server is not reachable
- Various vulnerability/security changes
- Stability improvements
- Performance issue when XM device runs out of memory

Fixes:

- Fix: Set CPU speed to 400MHz to eliminate out of band emission for Verizon (XM series)
  - Fix: AP drops stations when another AP with the same SSID is running on the same frequency
  - Fix: Stability fixes (random AP/Station reboots)
  - Fix: RADIUS MAC Authentication fails in case server isn't reachable
  - Fix: Can't SSH to Mikrotik devices
  - Fix: Do not load NAT helpers modules when NAT is disabled
  - Fix: DNS Proxy binds not just to LAN but to WAN port also
  - Fix: MSS Clamping for PPPoE is not enabled when Management VLAN is configured
  - Fix: Generate unique SSL certificate for each device
  - Fix: Generate SSL certificate start date from firmware build timestamp
  - Fix: Crontab does not work with multiple scheduler/commands
  - Fix: AirMax Capacity reports over 100 percent with Legacy devices
  - Fix: Site Survey doesn't report full list of available APs
  - Fix: Show full EdgeSwitch firmware version in Device Discovery
  - Fix: Device Name with not allowed symbols breaks DHCP
  - Fix: Impossible to log in with SSH authorisation keys
  - Fix: French language translation issue
  - Fix: Change antenna reporting to Chain0/Chain1 instead of Vertical/Horizontal for all Rocket models
  - Fix: Wrong TX Power reporting from command line "iwlist ath0 txpower" (XW)
  - Fix: DHCPv6 doesn't after PPPoE session reinitialisation
  - Fix: Revised UNII Rules activation/deactivation for products manufactured after 06/01/2016 (due to changes in the FCC rules)
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- WEB UI: Updated Chinese translation
  - WEB UI: More statistics on Main page (CPU/Memory usage)
  - WEB UI: Added DFS Events monitoring list on the Main page
  - WEB UI: Switch antenna Chain0/Chain1 mapping to Horizontal/Vertical for PowerBeams